



SUBSTITUTE SPECIFICATION

MODULE CAM AND METHOD FOR ALIGNING AND FASTENING TOOL

BACKGROUND OF THE INVENTION

5 1. Field of the Invention

The present invention relates to a module cam assembly and a method for aligning and fastening a tool to the module cam assembly. The module cam assembly is detachably sandwiched between the upper and lower die holders of a press machine.

10 2. Related Art

Referring to Fig.6, when it is desired to bend and punch work pieces using a variety of metal molds (dies) respectively having upper halves and lower halves, it is known to install a cam unit between the upper and lower die holders of a press machine. The cam unit comprises a vertically movable cam driver 22 fixed to an upper die holder 21, a horizontally movable cam slider 23 slidably connected to the cam driver 22, a positive return 24 having a resilient member responsive to the rise of the cam driver 22 for driving the cam slider 23 to the original position, and a lower die holder 25 slidably supporting the cam slider 23. The cam driver 22 has a downward cam slope, and the cam slider 23 has an upward cam slope. The cam driver 22 and the cam slider 23 are combined together with their slopes put in contact each other, so that raising and lowering of the cam driver 22 may move the cam slider 23 back and forth. The cam slider 23 is biased toward its original position in which the cam driver 22 is raised to its upper dead point, and the cam slider 23 is responsive to the rise of the cam driver 22 for moving back to the original position.

The cam slider 23 has, for example, a punch 26 fastened to its vertical side for piercing work pieces, whereas the lower holder 25 has a die 27 fastened to its vertical side corresponding to the punch 26. Such tool parts are aligned with each other to assure side piercing or side cutting of work pieces.

The above dies (cam unit) are massive and heavy and accordingly the cam driver, the cam slider and the cam base, a part of the lower die, are combined as a cam unit in order to improve its adaptability to a variety of machining of work pieces. For example, a known compact cam unit 28 that is narrow in width as shown in

Please
Enter
Substitute
Spec.
DBT